

# Notice of Allowability

Application No.

10/009,118

Examiner

Jeffrey S. Parkin, Ph.D.

Applicant(s)

NAM ET AL.

Art Unit

1648

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment after final submitted 14 July, 2005.
2. ☒ The allowed claim(s) is/are 1-3, 12-19, 22-24, renumbered 1-14, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Jeffrey S. Parkin, Ph.D.  
Primary Examiner  
Art Unit: 1648

Continuation of Attachment(s) 9. Other: Applicants' representative notified the examiner telephonically on 30 November, 2005, that the original notice of allowability mailed 18 October, 2005, incorrectly set forth the allowed claims. This supplemental notice of allowability is being provided to correct this oversight. The allowed claims are 1-3, 12-19, and 22-24, renumbered 1-14, respectively.

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A microorganism cotransformed with a plasmid vector containing a gene expressing the HIV nucleocapsid protein, and a plasmid vector containing the HIV psi ( $\psi$ ) sequence and a reporter gene located downstream of the HIV psi ( $\psi$ ) sequence, wherein reporter gene expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid protein.

2. (Currently Amended) The microorganism of claim 1 wherein the plasmid vector containing a gene expressing the HIV nucleocapsid protein is pJCI.

3. (Previously Presented) The microorganism of claim 1 wherein the HIV psi ( $\psi$ ) sequence is selected from the group consisting of SL1234 (SEQ ID NO: 2), SL234 (SEQ ID NO: 5), SL23 (SEQ ID NO: 4), and SL12 (SEQ ID NO: 3).

4-11. Canceled.

4 ~~12~~. (Currently Amended) A microorganism comprising *E. coli* JM109 (KCCM-10194) cotransformed with a vector pJC1 expressing the HIV nucleocapsid protein, and a vector pNHIPsi(SL1234) containing the HIV psi( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence, wherein  $\beta$ -galactosidase expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid

protein.

5 13. (Currently Amended) A microorganism cotransformed with [[a]] the vector pJC1 expressing the HIV nucleocapsid protein, and a vector pNHIPsi(SL234) containing the HIV psi ( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence, wherein  $\beta$ -galactosidase expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid protein.

6 14. (Currently Amended) A microorganism cotransformed with [[a]] the vector pJC1 expressing the HIV nucleocapsid protein, and a vector pNHIPsi(SL23) containing the HIV psi ( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence, wherein  $\beta$ -galactosidase expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid protein.

7 15. (Currently Amended) A microorganism cotransformed with [[a]] the vector pJC1 expressing the HIV nucleocapsid protein, and a vector pNHIPsi(SL12) containing the HIV psi ( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence, wherein  $\beta$ -galactosidase expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid protein.

8 16. (Currently Amended) A microorganism transformed with a vector pNHIPsi(SL1234) containing the HIV psi ( $\psi$ ) gene and  $\beta$ -galactosidase reporter sequence (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence, wherein  $\beta$ -galactosidase expression is downregulated

by the specific binding interaction of the psi sequence with the nucleocapsid protein.

9 ~~1/~~. (Currently Amended) A microorganism wherein both a plasmid vector containing a gene coding for the HIV nucleocapsid protein and a plasmid vector containing the HIV psi ( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene (SEQ ID NO : 1) located downstream of the HIV psi( $\psi$ ) sequence are integrated into a chromosome, wherein  $\beta$ -galactosidase expression is downregulated by the specific binding interaction of the psi sequence with the nucleocapsid protein.

10 ~~1/~~8. (Currently Amended) A method ~~for~~ of screening for HIV packaging inhibitors which comprises the steps of:

- (i) culturing the cotransformed microorganism of claim 1;
- (ii) treating the said cotransformed microorganism with putative compounds or compositions of HIV inhibitors; and,
- (iii) measuring the degree of change in  $\beta$ -galactosidase reporter gene expression in the culture, wherein an increase in reporter gene expression in the presence of the compound or composition compared to reporter gene expression in the absence of the compound or composition indicates the compound or composition inhibits the specific binding interaction between the HIV nucleocapsid protein and the psi sequence.

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11 ~~1/~~9. (Previously Presented) The method of claim 1~~8~~ wherein the cotransformed microorganism is *E. coli* JM109 (KCCM-10194).

20-21. (Canceled)

~~12~~ <sup>12</sup> 22. (Previously Presented) The microorganism of claim 1, wherein the reporter gene is  $\beta$ -galactosidase.

~~13~~ <sup>12</sup> 23. (New) The microorganism of claim ~~22~~ wherein the  $\beta$ -galactosidase reporter gene is SEQ ID NO: 1.

~~14~~ <sup>13</sup> 24. (New) The microorganism of claim ~~23~~ wherein the plasmid vector containing the HIV psi( $\psi$ ) sequence and  $\beta$ -galactosidase reporter gene is selected from the group consisting of pNHIPsi(SL1234), pNHIPsi(SL234), pNHIPsi(SL23), pNHIPsi(SL12), and pNHIPsi(SL34).